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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP 1100 SUPERIOR AVENUE, SEVENTH FLOOR CLEVELAND, OH 44114			EXAMINER GIBSON, ERIC M	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/799,980	Applicant(s) TURUNG, BRIAN E.	
	Examiner Eric M. Gibson	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-48, 50-53, 55-57, 60 and 61 is/are rejected.
- 7) ☒ Claim(s) 49, 54, 58, 59 and 62-64 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-43, 50, and 51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 recites the limitation "the aircraft" in line 2. There is insufficient antecedent basis for this limitation in the claim. There is no prior recitation of any aircraft in the claim.

Claims 24-43 are necessarily rejected as being dependent upon a rejected base claim.

Additionally, claims 24-43 claim dependence from canceled claim 1, therefore, there is no antecedent basis for the limitation "the emergency navigational system as defined in claim 1" recited in the claims. For the purposes of examination, the claims will be considered as if they depend from independent claim 23.

Claims 50 and 51 recite the limitation "said release signal" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-26, 34-36, 39, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Schanzer (US003945593A)

Per claim 23, Schanzer teaches a flight control apparatus that includes a comparator device that compares actual flight parameter data to predefined flight parameter data (18, 24; figure 1), and a navigational controller (26, 28, 30; figure 1) that takes control of at least one navigational control of the aircraft after the data deviates beyond a defined value (20, 22; figure 1).

Per claims 24 and 25, Schanzer teaches that the flight parameter data includes altitude (16, figure 1) and aircraft orientation (10, figure 1).

Per claim 26, Schanzer teaches controlling the navigation control to cause the deviation to cease deviating (column 4, line 50 – column 5, line 23).

Per claim 34, Schanzer teaches that the navigation control includes control of throttle, elevator, and spoiler (column 6, lines 43-49).

Per claim 35, the system of Schanzer is located within the cockpit (20, 22; figure 1) and parts outside (26, 28, 30; figure 1).

Per claim 36, Schanzer teaches three servomotors to perform the control such that any one can still perform the functions of the invention if one fails.

Per claims 39 and 40, Schanzer teaches defined values (column 6, line 35 and 38) that may be constant or changing depending on the actual flight of the aircraft.

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Claims 44-48, 52, 53, 55, 56, 60, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Bice et al. (US004924401A).

Per claim 44, Bice teaches a method of at least partially controlling an aircraft that has deviated from at least one predefined flight parameter including at least one predefined flight parameter for at least a portion of the flight path into a database (column 13, lines 56-66), monitoring at least one flight parameter during the flight of the aircraft, comparing at least one predefined flight parameter, and causing an emergency navigational system to activate a navigational controller (column 4, lines 4-47).

Per claims 45 and 46, the flight parameter taught in Bice is altitude.

Per claims 47 and 48, Bice teaches that the control causes the aircraft to deviate from the flight path and take a new flight path to avoid impacting the ground.

Per claim 52 and 53, Bice teaches a digital data storage database that is customarily removable from the vehicle, such as optical media (CDROM, DVD, etc.).

Per claim 55, Bice teaches that the navigational control at least includes control of the aircraft flap (column 5, lines 15-19).

Per claim 56, the system of Bice is located within the cockpit (column 5, lines 21-29) and parts outside (column 5, lines 30-32).

Per claims 60 and 61, Bice teaches defined values (column 14, lines 49-52) that may be constant or changing depending on the actual flight of the aircraft.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schanzer in view of Onken et al. (US006163744A).

Per claim 27, Schanzer teaches the invention as explained in the rejection of claim 23. Schanzer does not teach following a new flight path. Onken teaches an aircraft flight correction process that automatically calculates a new flight path upon the deviation of the aircraft from an original heading, so that the pilot is relieved from additional work of recalculating the new flight path (column 5, line 12 – column 6, line 3). It would have been obvious to one of ordinary skill in the art, at the time of invention, to recalculate the flight path in the system of Schanzer, in order to take into account the automatic flight correction and relieve the pilot the burden of determining the new flight path, as taught by Onken.

Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schanzer in view of Bice.

Per claims 31 and 32, Schanzer teaches the invention as explained in the rejection of claim 23. Furthermore, Schanzer teaches that one of the parameters to be monitored is the aircraft altitude (16, figure 1), with a commanded value input (22, figure 1). However, Schanzer does not teach a database. Bice teaches a digital data storage

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database (column 13, lines 40-66) for terrain data useable for altimeter information that is customarily removable from the vehicle, such as optical media (CDROM, DVD, etc.). It would have been obvious to one of ordinary skill in the art, at the time of invention, to include a database for flight parameter information in the system of Schanzer, in order to aid in the setting of a commanded value.

Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Bice.

Per claim 57, Bice teaches the invention as explained in the rejection of claim 44. Bice does not teach a secondary emergency navigational system. However, providing redundancy of flight control elements in the avionics industry would have been well known to one of ordinary skill in the art at the time of the invention. Flight controls are of critical importance and in case of failure backup systems are commonly provided. It would have been obvious to one of ordinary skill in the art, at the time of invention, to provide for a redundant system in Bice, in order to provide for a backup in the case of failure, as is well known and commonly found in aircraft flight control systems.

Allowable Subject Matter

Claims 28-30, 33, 37, 38, 41, 42, 43, 50, and 51, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Per claim 28, the prior art does not teach or reasonably suggest in combination the present invention including that the navigational controller releases control of the navigational control after the receipt of a release signal from a security controller.

Claims 29 and 30 would serve to further define the invention of claim 28 over the prior art.

Per claim 33, the prior art does not teach or reasonably suggest in combination the present invention including an aircraft regulator that limits operation of at least one aircraft device while the navigational controller is controlling the navigational control.

Per claim 37, the prior art does not teach or reasonably suggest in combination the present invention including that the secondary emergency navigational system is positioned in a location remote of the cockpit.

Per claim 38, the prior art does not teach or reasonably suggest in combination the present invention including a security analyzer to verify signals to the emergency navigational system from a location remote of the aircraft.

Per claim 41, the prior art does not teach or reasonably suggest in combination the present invention including that the navigational controller takes control of the navigational control after the compared data has remained beyond a defined value for a predetermined amount of time.

Per claim 42, the prior art does not teach or reasonably suggest in combination the present invention including a transmitter that transmits real-time navigational data of the aircraft to a location remote of the aircraft during the time the navigational controller controls the navigational controls.

Per claim 43, the prior art does not teach or reasonably suggest in combination the present invention including a fuel controller to at least partially expel fuel from the aircraft after the navigational controller controls at least one of the navigational controls.

Claims 50 and 51 would serve to further define the invention of claim 49 over the prior art.

Claims 49, 54, 58, 59, and 62-64 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Per claim 49, the prior art does not teach or reasonably suggest in combination the present invention including that the navigational controller releases control of the navigational control after the receipt of a release signal from a security controller.

Per claim 54, the prior art does not teach or reasonably suggest in combination the present invention including an aircraft regulator that limits operation of at least one aircraft device while the navigational controller is controlling the navigational control.

Per claim 58, the prior art does not teach or reasonably suggest in combination the present invention including that the secondary emergency navigational system is positioned in a location remote of the cockpit.

Per claim 59, the prior art does not teach or reasonably suggest in combination the present invention including a security analyzer to verify signals to the emergency navigational system from a location remote of the aircraft.

Per claim 62, the prior art does not teach or reasonably suggest in combination the present invention including that the navigational controller takes control of the

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navigational control after the compared data has remained beyond a defined value for a predetermined amount of time.

Per claim 63, the prior art does not teach or reasonably suggest in combination the present invention including a transmitter that transmits real-time navigational data of the aircraft to a location remote of the aircraft during the time the navigational controller controls the navigational controls.

Per claim 64, the prior art does not teach or reasonably suggest in combination the present invention including a fuel controller to at least partially expel fuel from the aircraft after the navigational controller controls at least one of the navigational controls.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Levine et al. (US20030135327A1) teaches a low cost inertial navigator. Greene (US006819266B2) teaches a system and method for reducing the speed of an aircraft. Moody (US006675076B1) teaches a system, autopilot supplement assembly and method for increasing autopilot control authority. Nelson (US006641087B1) teaches an anti-hijacking system operable in emergencies to deactivate on-board flight controls and remotely pilot aircraft utilizing autopilot. Lynch et al. (US006345232B1) teaches determining aircraft position and attitude using GPS position data. Lemelson et al. (US006259976B1) teaches a fuzzy logic based emergency flight control with thrust vectoring. Murphy (US006225890B1) teaches a vehicle use control. Cotton et al. (US006092007A) teaches aircraft course correction

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for wind and fuzzy logic course intercept profile based upon accuracy and efficiency.


Maffre et al. (US005884870A) teaches a device for maintaining the speed for an aircraft within a particular speed range. Gast (US005803408A) teaches an autopilot/flight director stall protection system. Robbins et al. (US005031102A) teaches a method and apparatus for aircraft pitch and thrust axes control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M. Gibson whose telephone number is (571) 272-6960. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EMG


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